

In the Claims:

Please cancel claims 1-8 and substitute the following new claims 9-20 therefor:

1 ~~9~~. A femur endoprosthesis for an artificial hip joint, comprising a stem (1) implantable without cement in a metaphysial region of a femur (40) below the greater trochanter while partially conserving the femoral neck, a proximal end (8) of the stem being connectable with an artificial spherical joint part (20), a distal end of the stem being bent caudally and constructed as a stem end (30), an exterior of the stem (1) and the stem end (30) being at least partially covered with a lattice structure, and the stem having a caudally oriented step (31) in an area of transition into the stem end (30).

2 ~~10~~. The femur endoprosthesis according to claim ~~9~~¹, wherein the stem (1) is formed with a conical taper from its proximal end (8) up to a beginning of the bend of stem end (30).

3 ~~11~~. The femur endoprosthesis according to claim ~~9~~¹, wherein the lattice structure is an open-meshed three-dimensional spatial lattice structure (9).

B1 4 ~~12~~. The femur endoprosthesis according to claim ~~11~~³, wherein the spatial lattice structure (9) is formed on stem exterior sides facing in caudal and cranial directions with a coarse mesh having mesh widths of about 2 to 6 mm.

5 ~~13~~. The femur endoprosthesis according to claim ~~11~~³, wherein the spatial lattice structure (9) is formed on stem exterior sides facing in ventral and dorsal directions with a fine mesh having mesh widths of about 1 to 2.5 mm.

6 ~~14~~. The femur endoprosthesis according to claim ~~9~~¹, wherein the proximal end (8) is connectable to the artificial spherical joint part (20) by an adapter (2).

7 ~~15~~. The femur endoprosthesis according to claim ~~14~~¹⁰, wherein the adapter (2) is constructed substantially as a double plug cone having a peripheral flange (11) around a common base of the double cone, wherein a conical sleeve (10) corresponding in shape to one end of the double plug cone is provided in a proximal area of the stem (1).

8 ~~16~~. The femur endoprosthesis according to claim ~~15~~⁷, wherein outward-facing surfaces of the flange (11) are at least partially covered with an open-meshed three-dimensional spatial lattice structure (12).

9 17. The femur endoprosthesis according to claim 9, wherein the step (31) intersects a longitudinal axis (47) of the femur when implanted into the metaphysial region.

10 18. A method of implanting a femur endoprosthesis for an artificial hip joint, comprising the steps of:

providing a stem (1) adapted for implantation without cement in a metaphysial region of a femur (40) and below the greater trochanter in natural spongiosa, the stem having a stem end (30) with a distal portion which is bent caudally, an exterior of the stem (1) and the stem end (30) being at least partially covered with a lattice structure, and a caudally oriented step (31) in an area of transition into the stem end (30);

implanting the stem with only a proximal end (8) of the stem (1) protruding from the femur;

positioning the stem (1) so that the caudally bent distal portion of the stem end (30) is generally parallel to a longitudinal axis (47) of the femur and lies laterally on a cortical side of the natural spongiosa; and

connecting the proximal end (8) with an artificial spherical joint part (20).

11 19. The method according to claim 18, wherein the proximal end (8) is connected to the artificial spherical joint part (20) by an adapter (2).

12 20. The method according to claim 18, wherein the lattice structure is an open-meshed three-dimensional spatial lattice structure (9).--

REMARKS

Claims 9-20 are presently pending in the application.

At the outset, applicants wish to thank Examiner Phan and Primary Examiner Willse for the courtesies extended to the undersigned and applicants' representatives, Professor Wolfram Thomas, one of the co-inventors, and Dipl.-Ing. Christian Weiss, the German patent attorney for applicants, at the personal interview at the U.S. Patent and Trademark Office on March 17, 2000. As indicated in the interview summary, it was agreed at the interview that amending the claims to specify the caudally oriented step in an area of transition into the stem end would overcome the prior art. Accordingly, as discussed more fully below, the claims have been so amended with anatomical support being added in the specification to provide antecedent basis for the terms used in the claims.